

### Amendments to the Claims

1       Claim 1 (currently amended): A method of monitoring network performance where performance  
2       requirements are already established in order to generate anticipatory alerts, comprising:  
3               monitoring, by a computer, a performance-defining metric on a recurring basis to obtain  
4       samples of the metric;  
5               determining a trend in actual service based on the obtained samples of the metric using  
6       linear regression, further comprising:  
7               analyzing a set of samples obtained over a predetermined sampling interval to  
8       determine whether the analyzed set satisfies predetermined reliability criteria, the predetermined  
9       reliability criteria requiring a predetermined, minimum number of samples in the set; and  
10               if the analyzed set of samples satisfies the predetermined reliability criteria, then  
11       using the set of samples in the linear regression, further comprising:  
12               determining a standard deviation and a mean of the ones of the obtained  
13       sets of samples,  
14               determining a ratio of the standard deviation and the mean of the ones of  
15       the obtained sets of samples, [[and]]  
16               generating a prediction, using the ones of the obtained sets of samples in  
17       which the ratio of the standard deviation and the mean does not exceed a predefined threshold, of  
18       a time at which the metric will cross a defined threshold if the current trend continues; and  
19               generating an anticipatory alert if the time at which the metric will cross the  
20       defined threshold is less than a predetermined time from a current time at which the prediction is  
21       made; and

1                   canceling a previously generated alert if a subsequently-generated mathematical  
2                   representation of the current trend predicts that the time when the network performance metric  
3                   will exceed the defined threshold is not within a predetermined time window measured from a  
4                   current time at which the subsequent prediction is made.

Claims 2 - 6 (canceled)

1                   Claim 7 (previously presented): A method for use in a system for providing an anticipatory alert  
2                   wherein at least one network performance metric is required to comply with a defined threshold,  
3                   comprising:

4                   monitoring, by a computer, a provided service to obtain, on a recurring basis, sets of  
5                   samples representing actual network performance;

6                   using only the obtained sets of samples containing at least a predetermined minimum  
7                   number of samples in a linear regression analysis to generate a mathematical representation of a  
8                   current trend in the network performance, further comprising:

9                   calculating predefined statistical parameters of each obtained set of samples,  
10                   wherein the calculated predefined statistical parameters comprise a standard deviation and mean  
11                   of the set of samples,

12                   determining whether the calculated predefined statistical parameters meet a  
13                   predefined threshold requirement, and

14                   using, in the linear regression analysis, only the obtained sets of samples for which  
15                   the calculated predefined statistical parameters are determined to meet the predefined threshold

16 requirement;

17 using the mathematical representation, predicting a time when the network performance

18 metric will exceed the defined threshold if the current trend continues;

19 generating the anticipatory alert if the predicted time is within a fixed time window

20 measured from a current time at which the prediction is made; and

21 canceling a previously generated alert if a subsequently-generated mathematical

22 representation of the current trend predicts that the time when the network performance metric

23 will exceed the defined threshold is not within the fixed time window measured from a current

24 time at which the subsequent prediction is made.

Claims 8 - 10 (canceled)

1 Claim 11 (previously presented): The method as set forth in claim 7, wherein:

2 the predefined threshold requirement requires that the standard deviation be no greater

3 than a predetermined percentage of the mean.

1 Claim 12 (currently amended): A system for providing an anticipatory alert indicating a predicted

2 violation of a predetermined network performance requirement, the system comprising:

3 a memory;

4 a performance monitor which obtains sets of samples of a predefined service metric on a

5 recurring basis;

6 a sample processor which receives the obtained sets of samples and generates a

7 mathematical representation of a current trend in service metric values using ones of the obtained  
8 sets of samples that contain at least a predetermined, minimum number of samples, wherein the  
9 mathematical representation comprises a linear regression performed using the ones of the  
10 obtained sets of samples and the sample processor further comprises:

11 statistical logic for determining a standard deviation and a mean of the ones of the  
12 obtained sets of samples,

13 arithmetic logic for determining a ratio of the standard deviation and the mean of  
14 the ones of the obtained sets of samples, and

15 prediction logic for generating a prediction, using the ones of the obtained sets of  
16 samples in which the ratio of the standard deviation and the mean does not exceed a predefined  
17 threshold, of a time at which the service metric will cross a defined threshold if the current trend  
18 continues; [[and]]

19 an alert generator for generating the anticipatory alert if the time at which the service  
20 metric will cross the defined threshold is less than a predetermined time from a current time at  
21 which the prediction is made; and

22 a canceler for canceling a previously generated alert if a subsequently-generated  
23 mathematical representation of the current trend predicts that the time when the service metric  
24 will cross the defined threshold is not within the predetermined time measured from a current time  
25 at which the subsequent prediction is made.

Claims 13 - 18 (canceled)

1       Claim 19 (currently amended): An article of manufacture comprising a non-transitory computer  
2       useable storage medium having a computer readable program embodied therein, wherein the  
3       computer readable program when executed in a computer causes the computer to:

4               receive, on a recurring basis, sets of samples of a service metric obtained by monitoring  
5               performance of a network;

6               calculate predefined statistical parameters of the sets of obtained samples;

7               determine whether the calculated predefined statistical parameters meet predefined  
8       threshold requirements, wherein the predefined threshold requirements include requiring a  
9       minimum number of samples for each obtained set and a ratio of the calculated predefined  
10      statistical parameters that does not exceed a predetermined ratio;

11               use ones of the sets of samples which meet the predefined threshold requirements to  
12       generate a mathematical representation of a current trend in the service metric using linear  
13       regression, the linear regression further comprising:

14               determining a standard deviation and a mean of the ones of the obtained sets of  
15      samples, and

16               determining a ratio of the standard deviation and the mean of the ones of the  
17      obtained sets of samples; [[and]]

18               use the mathematical representation to predict a time when the service metric will exceed  
19       a defined threshold if the current trend continues; [[and]]

20               generate an anticipatory alert if the predicted time is less than a predefined time from a  
21       time at which the prediction is made; and

22               cancel canceling a previously generated alert is a subsequently-generated mathematical

23 representation of the current trend predicts that the time when the service metric will exceed the  
24 defined threshold is not within the predefined time from a time at which the subsequent prediction  
25 is made.